

IN THE CLAIMS:

The following is a complete listing of claims in this application, reflects all changes currently being made to the claims, and replaces all earlier versions and all earlier listings of the claims.

- 1 1. (Original) A writing instrument comprising a substantially tubular element extending
2 between a first end and a second end and designed to be held in a hand of a user, said tubular
3 element comprising:
4 a liquid reservoir;
5 a liquid spray system comprising a liquid spray head coupled to said liquid reservoir,
6 said spray head serving to spray liquid onto a medium from a distance; and
7 a processor unit serving to activate said liquid spray system to enable said spray head to
8 spray liquid onto the medium from a distance;
9 said tubular element further comprising:
10 measurement means coupled to said processor unit; and
11 movement detector means coupled to said processor unit;
12 wherein:
13 said measurement means acts without physical contact between the writing instrument
14 and the medium to measure the distance between the spray head and the medium;
15 said movement detector means detects movement of the spray head; and
16 said processor unit is adapted to cause said liquid spray system to be activated when both
17 said measurement means determine that the distance between said spray head and the medium is
18 less than a predetermined maximum value, and simultaneously said movement detector means
19 detect movement of said spray head.
- 1 2. (Original) An instrument according to claim 1, wherein said processor unit is adapted to
2 cause said liquid spray system to be activated when both said measurement means determine
3 that the distance between said spray head and the medium lies in the range defined by a
4 predetermined minimum value and said predetermined maximum value, and simultaneously said
5 movement detector means detect movement of said spray head.
- 1 3. (Original) An instrument according to claim 1, wherein said measurement means
2 comprise an optical system serving to measure the distance between said spray head and the
3 medium.

1 4. (Original) An instrument according to claim 3, wherein:
2 said movement detector means are formed by said optical system and said processor unit;
3 and
4 said processor unit detects displacements of said spray head relative to the medium as a
5 function of the distances measured by said optical system.

1 5. (Original) An instrument according to claim 3, wherein said movement detector means
2 comprise an accelerometer.

1 6. (Original) An instrument according to claim 1, wherein said measurement means
2 comprise an ultrasonic acoustic probe serving to measure the distance between said spray head
3 and the medium.

1 7. (Original) An instrument according to claim 6, wherein:
2 said movement detector means are formed by said acoustic probe and said processor
3 unit; and
4 said processor unit detects displacements of said spray head relative to the medium as a
5 function of the distances measured by said acoustic probe.

1 8. (Original) An instrument according to claim 6, wherein said movement detector means
2 comprise an accelerometer.

1 9. (Original) An instrument according to claim 1, wherein said tubular element includes an
2 electrical power source and switch-on means connected to said electrical power source, said
3 switch-on means being actuatable by the user to switch on said liquid spray system, said
4 processor unit, and said measurement means and said movement detector means.

1 10. (Original) An instrument according to claim 1, wherein:
2 said tubular element includes means for emitting a visible light spot onto the medium so
3 as to represent the point of impact of the liquid spray on the medium.

1 11. (Original) An instrument according to claim 1, wherein:
2 said liquid spray head comprises at least one spray nozzle for spraying droplets of liquid;
3 and
4 said spray system further comprises an electrical signal generator for causing said at least
5 one nozzle of said spray head to be activated.

1 12. (Original) An instrument according to claim 11, wherein said tubular element has an
2 outside wall;
3 said selector means are mounted on said outside wall of said tubular element;
4 said selector means permits selection of the size of the droplets; and
5 said selector means is connected to said electrical signal generator of said spray system
6 to vary the frequency and/or the amplitude of electrical signals that cause said at least one spray
7 nozzle to be activated.

1 13. (Original) An instrument according to claim 1, wherein said processor unit is adapted to
2 activate communication means to emit a warning signal to the user when both said measurement
3 means detect that the distance between said spray head and the medium is less than a
4 predetermined maximum value, and simultaneously said movement detector means have not
5 detected any movement of the spray head over a predetermined time interval.

1 14. (Original) An instrument according to claim 1, wherein, when said liquid spray system
2 has not been activated for a first time interval, said processor unit is adapted to activate
3 communication means for a second time interval to emit a warning signal, and then to cause said
4 liquid spray system to be activated when said measurement means detect that the distance
5 between said spray head and the medium is once again less than the predetermined maximum
6 value, and simultaneously said movement detector means detect movement of said spray head
7 once again.

1 15. (Original) An instrument according to claim 1, wherein said movement detector means
2 comprise an accelerometer.

1 16. (New) A writing instrument comprising a substantially tubular element extending
2 between a first end and a second end and designed to be held in a hand of a user, said tubular
3 element comprising:

4 a liquid reservoir;

5 a liquid spray system comprising a liquid spray head coupled to said liquid reservoir,
6 said spray head serving to spray liquid onto a medium from a distance; and

7 a processor unit serving to activate said liquid spray system to enable said spray head to
8 spray liquid onto the medium from a distance;

9 said tubular element further comprising:

10 measurement means coupled to said processor unit; and

11 movement detector means coupled to said processor unit;

12 wherein:

13 said measurement means acts without physical contact between the writing instrument
14 and the medium to measure the distance between the spray head and the medium;

15 said movement detector means detects movement of the spray head; and

16 said processor unit is adapted to cause said liquid spray system to be activated

17 continuously when both said measurement means determine that the distance between said spray
18 head and the medium is less than a predetermined maximum value, and simultaneously said

19 movement detector means detect movement of said spray head.